Statement of Sheldon Kinsel, Western Counties Alliance, and Steven Rich, Rangeland Restoration Academy, on Natural Carbon Sequestration Before the Utah Legislature Public Utilities and Technology Interim Committee

June 23, 2010

Chairman Urquhart, Chairman Noel and members of the committee, we appreciate the opportunity to appear before you today to discuss what we are convinced is a win/win/win solution to the controversial and increasingly divisive debate over the role that CO_2 may be playing in climate change. Western Counties Alliance is a growing coalition of rural public western lands counties jointly working to make federal public lands policies more responsive to local, state and national priorities and to the general public interest. I should also state that in addition to heading the Rangeland Restoration Academy, Steve Rich is also the director of our Ranching and Rangeland Restoration Project.

Western Counties' particular interest in this issue is in new research findings on how carbon is sequestered in soils and the practical, on-the-ground experience with successful soil sequestration in this country and abroad and applying them to public rangelands here in the West. We have attached a letter to President Obama and other cabinet officials outlining how we think the entire federal government's worldwide CO2 "footprint" could be sequestered on public rangelands at no net cost to the taxpayer and with huge economic and environmental benefits.

We do recognize, however, that this approach has a much broader and even more significant application beyond public rangelands and in terms of the national interest. As Steve will explain briefly, management techniques to emphasize soil sequestration work extremely well in arid rangelands, which characterize much of the public lands in Utah and elsewhere. It is even more profitable and efficient when applied to agricultural lands that are irrigated or located in medium to high rainfall areas or are actively cultivated or managed. Of course, Utah has millions of acres of such lands as well.

To put these larger potential benefits into perspective, we are convinced that what we now know about soil sequestration of carbon will make the current debate over whether the science justifies incurring massive costs to reduce atmospheric carbon loading largely moot. The cost of soil sequestration is so low, the potential is so great and the associated environmental and economic benefits are so attractive that employing these techniques to sequester vast amounts of carbon can be justified entirely for these reasons alone. The concerns of those who warn of a global climate threat can be met not only with no net cost to the economy or taxpayers but with major net benefits, so the primary objection—the cost—no longer is a significant issue. In view of these established facts, the current heated and divisive debate should largely disappear.

We also think that this approach gives a new lease on life to continued fossil fuel use, which has economic and national security implications.

We want to stress that the potential for carbon sequestration in soils is truly enormous. Some of the pioneering work in this area has taken place in Australia. One of the foremost researchers there is now able to project that a one percent increase in the carbon content of the agricultural soils of that country could sequester all of the "legacy carbon" released into the atmosphere by the burning of fossil fuels worldwide since the beginning of the Industrial Revolution. Crop and rangeland classified as "agricultural" comprises about 60 percent of the continent. Australian scientists and practitioners are routinely achieving soil carbon sequestration rates considerably greater than this one percent level. In many instances they are able to increase soil carbon to nearly two percent in just three to five years.

It has also been projected that only a one-half percent increase of the carbon content on just two percent of the continent's agricultural soils could sequester all of Australia's annual CO_2 emissions. Currently Australia has one of the highest per capita emission rates in the world. These same techniques could be applied easily and quickly in the U.S. and worldwide. This means that we know how to dramatically reduce current atmospheric CO_2 levels, not just slow the increase in these levels, which is all that we would be able to do with most of the hugely expensive and economically destructive alternatives being considered in this country and elsewhere. Since more than one-third of the world's land area is grasslands, soil sequestration of carbon can cost effectively deal with any concerns about the potential impact of CO_2 causing adverse climate change.

A basic knowledge of the way grass grows is the key to understanding how rangelands and pasturelands are so much more efficient at sequestering carbon than timberlands or shrublands and can provide these benefits.

Atmospheric CO2 is the basis of grass and other plant growth. CO_2 moves from air to photosynthetic leaves to roots and then to the fungi and other soil organisms. Grass species all over the world have evolved to not only withstand periodic removal of at least some of the plants' leaves through natural processes such as grazing or fire, but to actually benefit from this removal. When the tops of grasses are trimmed back the plant reabsorbs some of its root system to generate the regrowth of its leaves, leaving dead roots in the soil. Then, as it regrows its leaves, the grass plant also regenerates its root system, which can account for half or two-thirds of the plant's biomass, a much higher proportion of roots to top than trees or shrubs. Each time this process of root growth, dieback and regrowth occurs, it "pulses" carbon into the soil, sequestering much of it. A critical fact is that grazed grasses generally grow thicker, more robust roots and deposit much more carbon underground in the process.

A small minority of range management scientists and expert practioners have known since the mid-1980s that simple but profound changes in range and pasture grass management practices such as pulse grazing and sowing cool-season grains in living warm season grasslands can result in major benefits. It builds carbon-rich soil and can completely transform and hugely increase the productivity, health, biomass and water productivity of western landscapes. These techniques are in use worldwide with great success, often by tribal groups whose ancestral grazing strategies have been validated by recent scientific discoveries.

To create these effects, practioners allow grazing at moderate to severe levels depending on a variety of integrated goals, soil moisture and other factors. They then remove the livestock and allow the plants to recover completely before the next grazing sequence. Grazing is planned before the grazing season, but the plan is modified to meet actual circumstances. This is done in order to protect the health of the plants, the fungi and ecosystem values.

We were aware that each properly managed grazing sequence left behind a large biologically significant increase in soil carbon, which radically increased soil life, stored water, increased green active growth periods and performed a very long list of critical ecosystem services.

In terms of practical rewards from this kind of management, operations using the full range of present knowledge routinely produce net annual profits equaling 50 percent of gross annual sales, win environmental awards based on the benefits that result, and amaze even many experts about how fast environmental healing can occur.

However, while we knew how to generate these financial profits and environmental benefits, what we did not know was the powerful and increasingly productive role that arbuscular mycorhizal fungi play in the establishment and maintenance of grassland and grass/shrub/woodland communities.

These fungi can access water and dissolved minerals far better than plants can alone. Plants effectively trade sugars, starches, proteins and other carbon-rich compounds in an exchange that the plants control as needed. Plants colonized by arbuscular mycorhizal fungi can photosynthesize 50 percent faster than uncolonized plants which do not have the advantage of sharing water and nutrients through fungal guilds with plants and other fungi many meters away.

Arbuscular micorhizal fungi also are the sole source of a substance called glomalin with which they coat their root hair-like hyphae. Glomalin is what gives rich organic soil its sweet smell. These minute fungi live only 10 days on average, and after they die, this sticky brown glomalin they have produced sticks soil particles and organic debris together to form the basis of water-stable soil structure. As long as proper management continues, glomalin will increasingly accumulate and transform the “labile” (meaning subject to quick breakdown) root material into stabilized soil carbon, increasingly safe from soil bacteria, fungi and other soil organisms that feed on live and dead root carbon only to free it back into the atmosphere.

Far from harming the soil formation process, proper pulse grazing accelerates it for a variety of technical reasons. If the goal is to generate the maximum carbon sequestration in the soil, slight adjustments in the traditional management approach can result in substantial increases in soil sequestration while also generating additional environmental and economic benefits. For example, some grass species have more extensive root systems than others, often going nine feet or more into the soil. This provides additional soil holding properties and makes these grasses more drought resistant. Of course, these grass species with such extensive root systems also have larger biomass above ground, which means they produce more forage.

Native Utah grasses and forbs, etc. are primarily adapted to grazing by migratory herd animals like bison, elk, etc. They are therefore well adapted to livestock use which imitates the movements of herds migrating up and down mountains and across landscapes, seeking water, green forage and relief from severe weather.

Utahns should be proud that perhaps the best overall landscape scale success of these concepts is continuing on Deseret Ranch in Rich County. Management there use effective range monitoring practices combined with local experience to plan their grazing, wildlife and other operations. The ranch is designated as a worldwide important bird area by the Audubon Society. It is famous for elk, moose, mule deer and pronghorn herds. White tailed prairie dogs, willow flycatchers, pygmy rabbits, raptors and other species of concern are abundant. The ranch is home to 20 percent of the sage grouse in Utah even though the ranch represents only 1percent or 2 percent of the potential habitat in the state. Clean water is available in most drainages by simply digging a hole. All washes are healing and covered with grass. Much of the proof for what we are saying can be seen on a highly profitable cattle ranch only a little over an hour's drive from where we are meeting today.

In conclusion, in light of the potential and the opportunities, we think there are a number of things that the state could consider doing. One thing would be to put pressure on the federal government to seriously consider this approach, especially with respect to public rangelands in Utah. Currently, as you know, the focus of federal policy is injection of CO_2 into deep geologic formations, a hugely expensive approach of questionable long term effectiveness, and a cap and trade policy that will likely transfer large amounts of money to third world countries.

If a financial incentive program for carbon sequestration is implemented, however, we would suggest that the approach we have outlined could be implemented on some school trust lands or other state land where the land has been blocked up into units large enough to make this kind of management practical.

Finally, we would encourage the state to push the federal government to pursue the kind of sage grouse recovery demonstration projects that Western Counties has outlined in a recent letter to Interior Secretary Salazar. We have attached a copy of that letter. As we point out to the secretary, in addition to offering the best chance to quickly and effectively recover this species, the range management techniques we are suggesting be used in these demonstration projects would also offer an excellent opportunity to demonstrate the effectiveness of rangeland soil sequestration.

We will be pleased to expand on any of the points raised in our statement or answer any questions the committee may have.

ATTACHMENT 1

March 31, 2010

The President
The White House
1600 Pennsylvania Ave, N.W.
Washington, D.C. 20500

Dear Mr. President,

Western Counties Alliance is a coalition of rural western public lands counties that are jointly working to make federal public lands policies more responsive to local, state and national priorities and to the general public interest. We are urging you to evaluate and demonstrate an innovative approach to managing the public rangelands of the West in ways that can sequester a significant portion of the current U.S. CO_2 emissions while at the same time provide a number of substantial economic and environmental benefits. This approach is both more efficient and more cost effective than the other strategies the federal government is currently pursuing to capture and sequester carbon and could be quickly and widely implemented.

Our suggested approach combines proven rangeland management techniques and recent scientific research findings that have greatly increased our understanding of the way plants sequester carbon in soils. This research shows that the actual potential for carbon sequestration in soils is far greater than had been previously thought. It is now clear that the several hundred million acres of public rangelands in the West could easily be managed to function as a highly efficient "carbon sink" and at the same time generate significant environmental and economic benefits as a result of improved rangeland health.

The realistic potential of what we are suggesting is so large that we think that adopting this management approach could relatively easily and quickly sequester the federal government's total annual "carbon footprint" and do so at no net cost to the taxpayers. This would be even more possible if the federal government meets the goal you have set of reducing CO_2 emissions by 28% by 2020. In fact, the approach we suggest may be a more cost effective way to achieve at least a portion of this federal government CO_2 emission reduction target than some of the ways that the departments and agencies are now considering to meet it.

In making these projections we rely heavily on the pioneering efforts underway in Australia to refine this approach and demonstrate its potential. One of the foremost Australian researchers in this area, Dr. Christine Jones, is now able to project that a 1% increase in the carbon content of the agricultural soils of that country (a category that includes rangelands and comprises about 60% of the continent's total land area) could sequester all of the "legacy carbon" released into the environment by the burning of fossil fuels since the beginning of the Industrial Revolution. Australians are routinely

achieving carbon sequestration rates considerably greater than this, in many cases approaching 2% increased soil carbon content, in just 3 to 5 years.

Dr. Jones also estimates that increasing the carbon content of just 2% of Australia's agricultural soils by only ½% could sequester the country's entire yearly CO_2 emissions, which currently are one of the highest per capita in the world. Evaluating the potential of this approach becomes especially significant because adopting it worldwide could quickly and dramatically reduce the current atmospheric CO_2 levels, not merely slow the increase, which is all that is possible with most of the other approaches being considered in this country and elsewhere. Since about one-third of the world's land surface is grasslands, this approach alone could resolve all the concerns about the build up of CO_2 in the atmosphere.

The key to understanding how such large amounts of carbon can be sequestered in grassland soils is recognizing that the growth characteristics of grasses make them more efficient at sequestering carbon than trees or shrubs. Grass species around the world have evolved not only to withstand periodic removal of at least some of the plants' leaves but to actually benefit from it. This removal can be done through the natural processes of animal grazing or fire or by mechanical means. When the tops of grasses are trimmed back, the plant reabsorbs some of its root system to generate the regrowth of its leaves, leaving dead roots in the soil. Then, as these leaves regrow, it also regenerates its root system, which can account for half or two-thirds of the plant's biomass, a much higher proportion of roots to top than trees or shrubs. Each time this process of root growth, dieback and regrowth occurs, it "pulses" carbon into the soil, sequestering much of it.

While this basic process has long been well understood, the recent research findings reveal that this pulsing of carbon can take place much deeper into the soil horizon than had been previously understood and that a large portion of this carbon is sequestered in a much more stable form than had been previously thought. In fact, we now know that it can remain locked in the soil for centuries. The result is that the potential for soil sequestration of carbon must be revised to reflect this new research and is dramatically higher than previously calculated.

Because only healthy functioning rangelands can effectively and efficiently sequester carbon in their soils, the key to the approach we are suggesting is improving rangeland health. In addition to sequestering carbon, improving rangeland health will also produce other economic and environmental benefits. These include increasing the amount of forage for wildlife and livestock, improving wildlife habitat, increasing biodiversity, improving water retention and utilization efficiency, reducing soil erosion and improving watershed health generally. Of particular interest to Western Counties Alliance are the direct economic and environmental benefits from increasing forage for wildlife and livestock and improving watersheds.

Yet because of past and current misguided and unsound federal grazing and land management policies, much of the public rangelands of the West are far less healthy than they could and should be. The consequence is that these degraded rangelands are not only not helping to significantly reduce atmospheric CO_2 loading, but in too many cases, they are actually contributing to it. This is because the natural processes of bacterial/fungal decay in degraded sites volatize carbon already in these soil. This

carbon is not being significantly replaced at the same time in these soils and cannot be replaced without human intervention to restore proper functioning.

Just as there are environmental and economic benefits that flow from healthy functioning rangelands, these degraded and unhealthy rangelands inflict environmental and economic costs. These include greater danger of rangeland and forest fires, loss of wildlife habitat and biodiversity, damaged watersheds, reduced forage for wildlife and livestock, the spread of invasive plant species, reduced water retention and utilization efficiency and others. All of these are the unfortunate result of some of the current federal land management decisions and policies.

The only way to restore and maintain healthy functioning western rangelands is through the natural process of grass growth, trimming and regrowth. It is impractical in most cases on these lands to employ mechanical methods to accomplish this. Use of fire, a natural alternative, not only adds to air pollution but also carries with it the risk of planned controlled burns becoming uncontrolled wildland fires with all the damage that often results. Fortunately, the third alternative, livestock grazing and the resulting managed animal impacts, is the safest and most practical way to jumpstart the process of restoring healthy functioning rangelands and maintaining them once they have improved. Most researchers recognize that well-managed livestock supply important ecosystem services. Managed animal impacts are also the alternative that can result in the greatest sequestration of carbon and produce the greatest number of environmental and economic benefits at the same time.

Because livestock are already being grazed on the public lands, the "tools" to manage these rangelands for maximum carbon sequestration and the other associated benefits are already in place and available. It is for this reason we can estimate with considerable confidence that the approach we are recommending to sequestering carbon on federally managed rangelands can be accomplished at no net cost to the taxpayer.

Fortunately, if there were the administrative commitment to do so, existing federal grazing and land management policies and regulations are flexible enough to permit the landscape scale demonstration projects that would be necessary to test the actual carbon sequestration potential of the approach we are recommending. These demonstration projects also could be initiated quickly. There can be no question that in addition to sequestering more carbon, the approach we are recommending will dramatically improve federal rangelands in the variety of ways we have outlined because these same techniques have been widely demonstrated and documented on private rangelands in this country. The only thing to be precisely determined is the rate of long term carbon sequestration that will occur on locations like these. In short, there are multiple benefits and no downsides to doing so.

The primary interest of Western Counties Alliance is the many associated economic and environmental benefits that would also result from managing federal rangelands for maximum carbon sequestration. But it is also clear to us that there would be significant public benefits from applying it to private agricultural lands in the U.S. as well. Again, the pioneering work in Australia in this area has demonstrated that carbon sequestration can be even more effective on these lands and can be highly profitable for the landowner

as well. The reason is that there is much greater potential for sequestering carbon in the soils of irrigated lands in the West or those in the Midwest and the East.

We also think that adopting this approach to soil sequestration of carbon on a global scale would likely make the current controversy over climate change science largely irrelevant. It is clear that much of the intensity of the debate over the science stems from whether it is solid enough to justify the costs to individuals and the economy from implementing a cap and trade system, imposing higher energy taxes, or adopting any of the various other options being considered. We are not aware, however, of anyone who is opposed to the simple objective of reducing atmospheric CO_2 levels. The approach we are suggesting would satisfy both sides in this debate. Vast amounts of carbon can be sequestered in soil in the U.S. and around the world at very little or no net cost to the economy because it is actually profitable for the landowner to adopt these practices. And, of course, there would be additional environmental and economic benefits as well which would more than justify whatever small costs there may be. Consequently, the cost concerns of those on one side of the debate would be allayed. At the same time, substantial amounts of carbon would be sequestered, satisfying those concerned about increasing atmospheric CO_2 levels.

An additional benefit would be that the U.S., or, for that matter, any other country that employs this approach, could largely achieve our CO_2 emissions reduction goals entirely by actions that can be taken domestically. This would reduce the negative impact on the U.S. balance of payments deficit that would otherwise occur if carbon offsets were purchased in other countries. Of course it would also mean that we would enjoy the additional environmental and economic benefits that would result here at home.

All things considered, we think that there is no other approach, including the ones being pursued by your recently announced Interagency Task Force on Carbon Capture and Storage, that has as much potential for rapid and efficient carbon sequestration at such a low cost and with so many associated environmental and economic benefits as the one we are proposing here. Determining its true potential through demonstration projects should be the highest priority for the federal government.

We are attaching two items that will provide additional background on this approach. One is a recent *Range Magazine* article by Steve Rich, who is the director of the Western Counties Alliance Ranching and Rangeland Revitalization Project. It provides a good overview of the potential for applying this approach to federal rangelands and the benefits that would result. The second is a presentation to the Victoria Parliament by Dr. Christine Jones, who, as we have mentioned, is one of the leading Australian scientists working in this area. It summarizes her research findings and extensive on the ground experience and outlines how they could be applied to improve agricultural productivity while also sequestering carbon.

We will, of course, be happy to further elaborate on the ideas and conclusions we outline here with anyone on your staff or in any department or agency you may designate.

Sincerely,

Mark O. Walsh
Executive Director

Attachments

cc: Agricultural Secretary Vilsack
Energy Secretary Chu
Interior Secretary Salazar
EPA Administrator Jackson
CEQ Chair Sutley

ATTACHMENT 2

April 22, 2010

Interior Secretary Ken Salazar
Department of the Interior
1849 C Street, N.W.
Washington DC 20240

Dear Secretary Salazar,

Western Counties Alliance is a coalition of rural western counties that focuses on the impact of federal land management policies on public lands counties and residents. Like other stakeholders, we are very concerned about declining sage grouse numbers that have led to its recent designation as a candidate species for listing under the Endangered Species Act. We are particularly concerned about the impact this action would have on multiple use management of the public lands and resources.

We commend you for emphasizing cooperation with a number of entities, including livestock producers, in your efforts to recover sage grouse populations. By looking for "smart ways to protect habitat" we think you have the right objective in mind. Unfortunately, we think that it has very little chance of success unless there is a significant shift in the current federal approach to trying to recover the sage grouse on the public lands.

There is ample evidence to support our assessment. The logical first step in recovering the sage grouse is to determine what has caused its comparatively rapid decline over much of its range. The second is to take action to remove or mitigate those causes. This must be done while keeping in mind the recent history of sage grouse populations. As recently as fifty years ago sage grouse were "as common as Jackrabbits" across much of the West, as one account colorfully put it. Yet, over the intervening years their numbers have steadily declined to the point of imminent listing today. The reasons commonly cited for this decline, such as excessive livestock grazing, oil and gas and other natural resource development activities, conversion of sagebrush steppe habitat to housing and other uses all no doubt explain some of the decline in a few local areas. However, even a cursory review of what is happening on the ground over most of its range quickly reveals such explanations as too simplistic. For example, they do not explain why the bird is declining over vast areas of its range where none of these supposed causes of its decline are present. They also ignore an important element in the historical record.

At the same time when sage grouse were far more abundant historic stocking rates of livestock on sagebrush steppe grazing allotments were considerably higher than they are today. This would logically lead to the conclusion that livestock grazing is not a significant factor in the species decline--if it is a factor at all—at least at these historic stocking rates. Other disturbances, such as oil and gas development were also occurring

during this time of abundance and with comparatively less environmental regulation. Fire policies then were very different, much less integrated and the resources for fire fighting were less available than they are today, to cite another example of an important difference.

However, probably the most important historic factor to recognize is that back at the time of greater abundance federal land management policy and philosophy were very different than today. At that time they emphasized appropriate water availability and implementation of scientific allotment management plans to control overgrazing and improve grazing resources for wildlife and livestock. It is different today. In contrast, current policy focuses primarily on simply reducing livestock numbers, largely for ideological rather than valid scientific reasons. It largely ignores plant community dynamics, such as over mature, fire prone sagebrush stands which have out competed grasses and forbs and progressively destroy sage grouse habitat values.

This logically leads to asking the question whether this change in federal grazing and land management policies could be at least partly responsible for the species decline. That question is all the more pertinent because the decline in sage grouse numbers on public lands can be closely correlated with this change in federal management philosophy and the resulting impact on sagebrush steppe habitat have become more pronounced.

It is our contention that, in fact, current federal grazing and land management policies are the major cause of the decline in sage grouse populations. We recognize that this is a strong indictment but, again, there is strong evidence to prove it.

The strongest evidence is that sage grouse are still flourishing in some parts of their range. Deseret Ranch is a good example. This is a very profitable commercial cattle ranch located in Rich County, Utah. The county is approximately 50% federally-managed land and it is one of the places where Sage Grouse were abundant fifty years ago. In the years since, sage grouse numbers have declined precipitously but not uniformly in the county. Deseret Ranch is one of the exceptions. In size, it represents about 1% of the current and potential Sage Grouse habitat in Utah (depending on how that is defined) but at least 20% of all sage grouse in the state of Utah live on this one ranch. Repeated surveys have shown that there are approximately 10 sage grouse on Deseret Ranch for every one found in a comparable area of the adjacent BLM-managed lands. Nor is Deseret Ranch an isolated example. Similar results are found on other scientifically-managed private rangelands across the West. Any successful federal effort to recover the sage grouse must determine why that is the case and make whatever adjustments are necessary to replicate it on the public land.

Aside from the obvious fact that the habitat for sage grouse on these private land holdings is not subject to current federal management policies, these private rangelands share a number of other common characteristics. Not surprisingly, one is that on a broad range of other environmental indicators they are in far better condition than the federal lands on the other side of the fence lines. These privately managed lands have greater biodiversity, more wildlife and better wildlife habitat, less soil erosion, healthier watersheds, better water retention and utilization efficiency, greater drought tolerance, higher forage production and others. They are in much better condition than the adjacent

federal lands because they are being managed based on sound science and in a way that requires producing a range of measurable benefits.

Obviously, the sage grouse are benefiting from this management approach. They have larger brood sizes and higher survival rates. In contrast, because the adjacent federal land is being managed in a way that is largely unsupportable by sound science and largely ideologically-driven, it is obviously not producing conditions conducive to sage grouse survival.

The real key to understanding the difference is to recognize that it is the use of livestock grazing as a tool of habitat management on these private rangelands that is generating these beneficial conditions. Grazing on these private lands is conducted to improve forage quality and quantity and in the process it optimizes habitat values and wildlife survival rates, including for sage grouse. This management approach is in stark contrast to the management regime on the adjacent federal lands that is primarily focused on merely limiting disturbance by livestock.

Sage grouse are thriving under this grazing management system because they are a "disturbance-dependent species." They are dependent on certain types of disturbances of their habitat to flourish, including the maintenance of an optimum range of overstory cover, proper forbs and insects available for successful nesting and brood rearing and so on. Properly managed livestock grazing obviously can provide these while generating substantial revenue at the same time. Not only can livestock impacts provide these benefits more effectively than other methods but also more cheaply than any of the alternative approaches often suggested, including many of those that are incorporated in government recovery plans. Livestock also produce more of the associated environmental benefits found on these privately managed ranges than these other approaches which ignore the ecosystem services only animals can provide.

This history and the reality of the disparity in sage grouse numbers raises an obvious question. If the objective is to recover sage grouse, why does the federal government not employ on federal rangelands the simple, cost effective and widely beneficial management techniques that are proven so successful on adjacent private rangelands? In view of the requirements of the Endangered Species Act for use of the best information available, the American people who own these lands and resources can legitimately ask this question of you as their current steward. We think that you owe them a clear answer.

Since there is extensive livestock grazing occurring on federal lands, it obviously is not the absence of grazing that accounts for this disparity in sage grouse numbers. Rather, as we have stressed, it is the ideological focus of federal grazing management policies, and to a very significant extent other policies related to rangeland fire, predator control and noxious weed control that are the problem. It also is important to understand that innovative grazing demonstration projects have been done on federal lands within federal policy and legal constraints. The necessary flexibility clearly exists if there is the commitment and the will to accomplish beneficial goals.

It is this last component, the mindset of too many federal land managers that is the real problem. For many livestock grazing is primarily an ideological issue. They "know"

that domestic livestock are "unnatural and bad for the land" and are therefore hostile to livestock grazing even though it is provided for in law and regulation. Other federal managers have understandably but unwittingly been misled by research that, because of its narrow focus is, to put it bluntly, simply wrong or not applicable in the real world. It is not necessary here to examine the reasons for this situation, merely to note that it exists. Again, one need look no further for proof of this conclusion than the dramatic fenceline contrasts that demonstrate even to untrained individuals the difference between current federal management policies and those on adjacent private land.

Our objective is not to focus on the causes of the problem except as it is necessary to understand them to correct it. We are proposing a simple way to cut through any such debate and clearly demonstrate the validity of our contention that federal management policy is largely responsible for the decline of the sage grouse (as well as creating many other problems in the West). That is, simply, to apply these range management and grazing techniques that have been clearly shown to be so successful on privately managed rangeland in a number of landscape scale demonstration projects on federal rangelands and honestly evaluate the results. We think this could be done at little or no additional cost to the taxpayer, since these demonstrations would be on existing grazing allotments where the essential input, livestock grazing, is already available. And, while some of the techniques are not commonly being practiced under current federal grazing and other management policies and philosophy, they clearly are not harmful to the range. To reassure any possible skeptics that this is in fact the case, we propose that an independent monitoring team be organized for each demonstration project that would augment the agency personnel who already monitor grazing on that allotment.

We propose that these demonstrations be run for a minimum of five years and preferably ten. At the end of that time, if we are able to use the techniques already demonstrated to be successful on private rangeland, we can assure you that there will be clear positive sage grouse population trend indicators and there will be measurable benefits in a number of related areas as well.

One of those additional benefits from conducting these demonstrations would be the opportunity to simultaneously evaluate the use of public rangelands for atmospheric carbon sequestration. Several weeks ago we copied you on a letter we sent to President Obama suggesting that incorporating new research expanding our understanding of how carbon is sequestered in grassland soils with the same kind of range management techniques that would be employed on these sage grouse recovery demonstration projects, could also demonstrate that they are the best, cheapest and most immediately available "carbon sink" available for atmospheric carbon sequestration. For your convenience, I am attaching another copy of that letter to the president. The proposed sage grouse recovery demonstration projects we are suggesting could simultaneously provide an ideal opportunity to evaluate the potential of this strategy in a number of different locations and conditions.

We would like to discuss this with you personally or with any one you would designate to follow up on setting up demonstration projects to recover the sage grouse on public land.

We look forward to hearing from you.

Sincerely,

Mark O. Walsh
Executive Director

Attachment